

WHAT IS CLAIMED IS:

- 5 1. A spunbond nonwoven fabric comprising continuous multiple component filaments having a cross-section, a length, and a peripheral surface and comprising a polyester component and a polyethylene component arranged in substantially distinct zones across the cross-section of the multiple component filaments and extending substantially continuously along the length of the multiple component filaments, at least a portion of the peripheral surface of the multiple component filaments comprising the polyethylene component, and the polyethylene component comprising a blend of linear low density polyethylene and high density polyethylene, the high density polyethylene being present in an amount greater than 50 weight percent of the polyethylene component.
- 10 2. The spunbond fabric according to claim 1 wherein the multiple component filaments are sheath/core bicomponent filaments, the core comprising the polyester component and the sheath comprising the polyethylene component.
- 15 3. The spunbond fabric according to claim 1 wherein the polyester component comprises poly(ethylene terephthalate).
- 20 4. The spunbond fabric according to claim 1 wherein the polyethylene component comprises between about 10 to 40 weight percent linear low density polyethylene and between about 60 to 90 weight percent of high density polyethylene.
- 25 5. The spunbond fabric according to claim 1 wherein the linear low density polyethylene comprises a copolymer of ethylene and a co-monomer selected from the group consisting of 1-octene, 1-hexene, and 1-butene.
6. The spunbond fabric according to claim 5 wherein the co-monomer is 1-octene.
7. The spunbond fabric according to claim 5 wherein the linear low density polyethylene is prepared using a Zeigler-Natta catalyst.
8. The spunbond fabric according to claim 2 wherein the sheath comprises between about 10 to 90 volume percent of the bicomponent filaments and the core comprises between about 90 to 10 volume percent of the bicomponent filaments.
9. The spunbond fabric according to claim 8 wherein the sheath comprises between about 30 to 45 volume percent of the bicomponent filaments and the core comprises between about 55 to 70 volume percent of the bicomponent filaments.
- 35 10. The spunbond fabric according to claim 1 wherein the multiple component filaments have a diameter of between 7 and 15 microns.

11. The spunbond fabric according to claim 10 wherein the diameter of the multiple component filaments is between 10 and 15 microns.

12. A composite sheet comprising:

a first layer having a first side and an opposite second side; and

a second layer attached to the first side of the first layer comprising a spunbond web of continuous multiple component filaments, the multiple component filaments having a cross-section, a length, and a peripheral surface and comprising a polyester component and a polyethylene component arranged in substantially distinct zones across the cross-section of the multiple component filaments and extending substantially continuously along the length of the multiple component filaments, the polyethylene component comprising a blend of linear low density polyethylene and high density polyethylene, at least a portion of the peripheral surface of the multiple component filaments comprising the polyethylene component.

13. The composite sheet according to claim 12, wherein the first layer comprises a web of meltblown fibers.

14. The composite sheet according to claim 13, wherein the melt blown fibers have a length and a peripheral surface, the peripheral surface comprising a linear low density polyethylene component on at least a portion thereof.

15. The composite sheet according to claim 12, wherein the first layer comprises a microporous film.

16. The composite sheet according to claim 14, wherein the linear low density polyethylene comprises a copolymer of ethylene and a co-monomer selected from the group consisting of 1-octene, 1-hexene, and 1-butene.

17. The composite sheet according to claim 14 wherein the linear low density polyethylene in the first layer and that in the second layer are the same.

18. The composite sheet according to claim 17 wherein the linear low density polyethylene is a copolymer of ethylene and 1-octene.

19. The composite sheet according to claim 12 wherein the first layer comprises multiple component meltblown fibers.

20. The composite sheet according to claim 19 wherein the multiple component meltblown fibers further comprise a polyester component.

21. The composite sheet according to claim 20 wherein the multiple component meltblown fibers are side-by-side bicomponent meltblown fibers .

22. The composite sheet according to claim 21 wherein the spunbond filaments comprise bicomponent sheath-core filaments wherein the sheath
5 comprises the polyethylene component and the core comprises the polyester component.

23. The composite sheet according to claim 22 wherein the polyester components comprise poly(ethylene terephthalate).

24. The composite sheet according to claim 23 wherein the bicomponent
10 meltblown fibers comprise between about 7 to 99 volume percent of the polyethylene component and between about 93 to 1 volume percent of the polyester component, and wherein the bicomponent spunbond filaments comprise between about 10 to 90 volume percent of the polyethylene component and between about 90 to 10 volume percent of the polyester component.

25. The composite sheet according to claim 24 wherein the meltblown
15 fibers comprise between about 15 to 40 volume percent of the polyethylene component and between about 85 to 60 volume percent of the polyester component, and wherein the spunbond filaments comprise between about 40 to 60 volume percent of the polyethylene component and between about 60 to 40 volume percent of the polyester component.

26. The composite sheet according to of claim 12, further comprising:
a third layer attached to the opposite second side of the first layer
comprising a second spunbond web of continuous multiple component filaments,
the spunbond filaments having a cross-section, a length, and a peripheral surface,
25 and comprising a polyester component and a polyethylene component, the polyester and polyethylene components being arranged in substantially distinct zones across the cross-section of the multiple component filaments and extending substantially continuously along the length of the multiple component filaments,
the polyethylene component comprising a blend of a linear low density
30 polyethylene and a high density polyethylene.

27. The composite sheet according to claim 26 wherein the spunbond filaments of the second and third nonwoven layers have substantially the same cross-section and polymeric composition.

28. The composite sheet according to claim 26 wherein the spunbond
35 multiple component continuous filaments of the second and third nonwoven

layers comprise bicomponent sheath-core filaments wherein the polyester components form the core.

29. A gamma radiation sterilizable medical garment comprised of the composite sheet of claim 26.

0933471-061801